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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/508,786

09/23/2004

Shiro Iida

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3928

21611 7590 05/17/2007

SNELL & WILMER LLP (OC)

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SUITE 1400

COSTA MESA, CA 92626

EXAMINER

ROY, SIKHA

ART UNIT

PAPER NUMBER

2879

MAIL DATE

DELIVERY MODE

05/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/508,786

Applicant(s)

IIDA ET AL.

Examiner

Sikha Roy

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 and 8-19 is/are allowed.
- 6) ☒ Claim(s) 20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The Amendment, filed on February 9, 2007 has been entered and acknowledged by the Examiner.

Cancellation of claim 7 and addition of new claims 20 and 21 have been entered.

Claims 1-6, 8-21 are pending in the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication 20020180352 to Ilyes et al.

Regarding claim 20 Ilyes discloses (Fig. 1) a low pressure mercury lamp having the glass tube in the shape of a double-spiral comprising a turning part 38, a first spiral part and a second spiral part, the turning part located in substantially a midsection of the glass tube, the first spiral part starting from one end of the glass tube and spiraling around a pivotal axis to reach the turning part, the second spiral part starting from the turning part and spiraling around the pivotal axis to the other end of the glass tube, the glass tube having inner shape of a substantially circular cross section with an inner tube diameter in the range from 5 mm to 9 mm (diameter 8.8mm = outer diameter- thickness). Ilyes further notes that (para [0005], [0020] – [0023]) the bulb wall loading is set so that

Art Unit: 2879

a temperature of the coldest spot within the glass tube under steady state illumination is substantially equal to the optimum cold spot temperature at which maximum illumination flux (optimum performance) is obtained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 20020180352 to Ilyes et al. as applied to claim 20 above, and further in view of JP 05089832 to Honda.

Regarding claim 21 Ilyes is silent about glass tube containing 3 mg of elemental mercury.

Honda in same field of endeavor discloses (see English abstract) optimum amount of mercury in the bulb enables setting wall load of the lamp so that a specified lifetime can be ensured preventing drop of brightness and uniformity.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to specify the amount of mercury which would provide the wall loading enabling uniform brightness. Ilyes and Honda disclose the claimed invention except for the limitation of 3 mg of mercury. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re*

Art Unit: 2879

Boesch, 205 USPQ 215 (CCPA 1980). Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to specify 3mg of mercury in the glass tube, since discovering an optimum value of a result variable is considered within the skills of the art.

Allowable Subject Matter

Claims 1, 2 and 19 are allowed over the prior art of record.

Regarding claims 1, 2 and 19 prior art of record neither teaches nor renders obvious an arc tube with spiral glass tube having all the combinations of limitations and particularly comprising a bulb wall loading set so that the temperature of the coldest spot within the glass tube under steady state illumination falls within a range of 60°C to 65°C inclusive.

Claims 3, 6, 8, 10-13, 15-18 are allowed because of their dependency status from claim 1.

Claims 9 and 14 are allowed because of their dependency status from claim 2.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 7,059,929 to Iida et al. discloses a lamp having double spiral glass tube including 5 mg of mercury.

Art Unit: 2879

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2879

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sikha Roy

Sikha Roy
Patent Examiner
Art Unit 2879